

Product Brief SPB800, Wireless LAN Module 802.11b/g , UART Interface

INTRODUCTION

The SPB800 solution is a complete Wi-Fi module with state of the art embedded security protocols and low power features. The SPB800 includes a matching low power, high performance 32-bit Microcontroller unit. The solution offers immediate wireless connectivity to the Internet or a local area network for any devices supporting a UART and RS-232 interface.

The SPB800 solution removes the need for Wi-Fi drivers, IP-stack and security protocols on the host CPU. The SPB800 solution provides the fastest possible design turn around for Customers.

SPB800 offers a cost effective solution for retrofitting existing or new UART applications with Wi-Fi Connectivity!

Typical applications include:



Energy Control

- Automatic Meter Reading
- Sensor networks
- Smart Homes climate control



Fitness & Healthcare

- Fitness equipment
- Wi-Fi scales
- Remote Patient monitoring

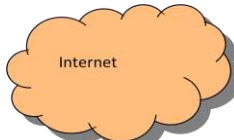


Industrial Control

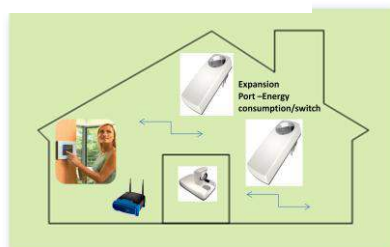
- Sensor for fire, smoke and gas alarms
- Pressure, temperature and level sensing
- Security systems



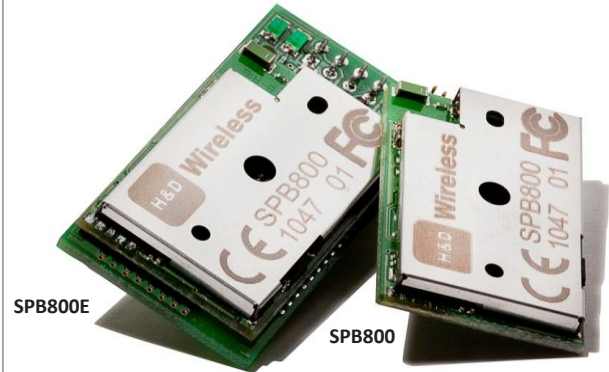
Standard Wi-Fi AP



The IP based Smart Home



SPB800 WLAN Module 802.11b/g



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KEY FEATURES

- ✓ Fully integrated Wi-Fi HW and Wi-Fi MAC
- ✓ Fully compliant with IEEE WLAN 802.11b/g
- ✓ Allows any Microcontroller/CPU with UART interface to access the Wi-Fi network for accessing a LAN or Internet.
- ✓ Full IP-stack included
- ✓ Security and Hardware encryption accelerator up to 128 bit
- ✓ UART interface
- ✓ Data Rates: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54Mbps
- ✓ Wi-Fi SDK oWL © Pico.
- ✓ Web server reference designs available for download
- ✓ High RF output TX power and RX sensitivity
- ✓ Delivered fully tested and calibrated
- ✓ FCC/CE approved
- ✓ Completely integrated RF parts including the internal antenna
- ✓ Option for external antenna connector
- ✓ Supply voltage 3.3V

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Technical Support

Software drivers
 Wi-Fi Integration
 Reference designs
 Documentation

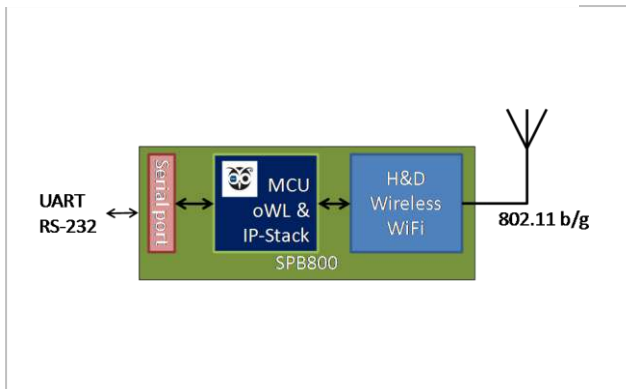
Turnkey Solutions

The reference designs provided are turnkey solutions that will work first time and can be modified and used for customers own products.

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Web site:
www.hd-wireless.se

Block Diagram SPB800 WLAN Module



Software

The SPB800 is easy to integrate with any 8-bit or 32-bit processor and is supplied with pre-flashed Software as a Serial port adapter or optionally support oWL pico command interface (equivalent to AT commands). IP and security parameters can be pre-set in the unit.

H&D Wireless provides a Software suite, SDK oWL Pico for serial to WLAN conversion. The oWL[®] Pico wraps a simple character based protocol over a serial port for WLAN configuration and control.



Evaluation Package

H&D Wireless provides an adapter solution to the SPB800 – evaluation kit SPB403, fully supported on AT_AVR_XPLAIN Evaluation kit. A 2kB host driver, the oWL[®] Pico SDK is included.

Standards Compliance

Country	Approval authority	Regulatory	Frequency band
USA	FCC	FCC	2.4-2.4835
Canada	IC	RSS	2.4-2.4835
EU	National	ETSI	2.4-2.4835

Partners

H&D Wireless AB, official Atmel Wi-Fi partner



<http://www.atmel.com/wifi>

Specifications

Core CPU	32-bit MCU
Wireless Network Standard Support	IEEE 802.11b/g
Frequency Band	2.412-2.484 GHz
Operation Modes	<input checked="" type="checkbox"/> oWL-pico (IP stack on SPB800) <input checked="" type="checkbox"/> Serial to WiFi
Modulation Techniques	QPSK, 16QAM, 64QAM DBPSK, DQPSK, CCK, OFDM with BPSK
Hardware interfaces	<input checked="" type="checkbox"/> UART <input checked="" type="checkbox"/> RS-232* (in EVK only)
Network protocols	TCP/IP, DHCP, UDP/IP, ICMP, HTTP
WLAN functions, QoS	Power save modes, automatic roaming, Ad-hoc and Infrastructure mode
Wireless Security	<input checked="" type="checkbox"/> WEP-64 <input checked="" type="checkbox"/> WEP-128 <input checked="" type="checkbox"/> WPA-PSK <input checked="" type="checkbox"/> WPA2-PSK
Hardware dimensions	34x22x5 mm
Current consumption	TX :186mA, RX:77mA, , Power save: 7mA (2s listen interval) Sleep: 1mA
Supply Voltage	3.0-3.6V
Operating Temperature, degrees C	-20° - + 70° (commercial) -40° - + 85° (industrial)
Supported UART baud rates	<input checked="" type="checkbox"/> Supports all standard baud rates from 9600bps to 3.6 Mbps

Order Information

Part Number#	Description	Image
SPB800-B	Chip antenn	
SPB800-D	External antenna, U.fl connector	
SPB800E	SPB800 mounted on a test board, 10 -pin socket. Supported on AT_AVR EXPLAIN	
HDA800	SPB800 Evaluation Kit: SPB800E, PC connection card, cables and Software package	

For additional information please contact Sales at H&D Wireless AB.
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